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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Applicant : Claude Chapel et al.
Serial No. : 09/869,389
Filed : June 28, 2001
For : Process for Storing a Digital Audio and Video Datastream, Storage Device and Receiver for Implementing the Process
Examiner : Helen Shibru
Art Unit : 2621

REPLY BRIEF

May It Please The Honorable Board:

This is Appellant's Reply Brief in response to the Examiner's answer dated July 18, 2007. No fee for filing this Reply Brief is believed due. Should a fee be due please charge this fee to Deposit Account No. 07-0832. Appellants waive an Oral Hearing for this appeal.

Please charge any additional fee or credit any overpayment to the above-identified Deposit Account. Enclosed is a single copy of the Brief.

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Date:

9/18/07

I. REAL PARTY IN INTEREST

The real party in interest of Application Serial No. 09/869,389 is the Assignee of record:

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II. RELATED APPEALS AND INTERFERENCES

There are currently, and have been, no related Appeals or Interferences regarding Application Serial No. 09/869,389.

III. STATUS OF THE CLAIMS

Claims 16-33 are rejected and the rejection of claims 16-33 is appealed.

IV. STATUS OF AMENDMENTS

There were no amendments made after Final Rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The Summary of the Claimed Subject Matter provided in the Appeal Brief filed on March 12, 2007 is incorporated herein by reference and Applicants respectfully submit that no further summary is needed.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 16-18 and 21-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Moriyama (US Patent No. 6,067,282).

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama (US Patent No. 6,067,282) in view of admitted prior art.

VII. ARGUMENT

Moriyama does not anticipate claims 16-18 and 21-33. Thus, reversal of the rejection of claims 16-18 and 21-33 under 35 U.S.C. § 102(e) is respectfully requested. Moreover, Moriyama in view of admitted prior art does not make claims 19-20 unpatentable. Thus, reversal of the rejection of claims 19-20 under 35 U.S.C. § 103(a) is respectfully requested. Reversal of the Final Rejection (hereinafter termed “rejection”) of claims 16-33 under 35 U.S.C. § 102(e) and § 103(a) is respectfully requested.

Overview of the Cited References

Overview of Moriyama and admitted Prior Art are found in the Appeal Brief filed March 12, 2007 and is incorporated herein by reference.

Rejection of Claims 16-18 and 21-33 under 35 USC 102(e) over Moriyama (US Patent No. 6,067,282)

Moriyama does not anticipate claims 16-18 and 21-33. Thus, reversal of the Final Rejection (hereinafter termed “rejection”) of claims 16-18 and 21-33 under 35 U.S.C. § 102(e) is respectfully requested.

CLAIMS 16-18

The arguments presented below apply to independent claim 16. As claims 17 and 18 are dependent on claim 16, all arguments also apply to the dependent claims. These remarks respond to the Examiner’s Answer and supplement the remarks contained in the Appeal Brief filed on March 12, 2007. Specifically, Moriyama fails to disclose or suggest the features claimed in claim 16 of the present invention.

In the Examiner’s Answer, it is asserted, concerning claim 16, that Moriyama teaches that video file sizes (block sizes) are larger than audio file sizes (block sizes) and the audio and video to be stored have different recording block sizes. The Examiner’s Answer argues that the terms “block” and “file” have the same definition, and therefore, Moriyama, which describes a larger size video file and a smaller size audio file, is the same as “two file systems having different recording block sizes” as recited in claim 16 of the present invention. Applicants respectfully disagree. As argued in the Appeal Brief, dated March 12, 2007, Moriyama merely describes “the data capacity of audio information is generally much smaller than that of the video information” (Moriyama, Col. 18, lines 12-

13) and therefore, “data of the plural CDs may be recorded on a single DVD” (Col. 18, lines 13-14). Therefore, the bit sizes of audio and video data stored in audio and video files, respectively, may be of different sizes. However, Moriyama does not disclose or suggest that the storage comprises “two file systems having different recording block sizes” as recited in claim 16 of the present invention. Moriyama may describe audio and video data files are of different sizes; however, Moriyama does not disclose or suggest storing both types of data using “two file systems having different recording block sizes” as recited in the present claimed invention.

Applicants respectfully disagree with the assertion in the Office Action and the Examiner’s Reply that the two different data TYPES (audio and video) that may be different in size (audio data is smaller in size than video data) in Moriyama is equivalent to “two file systems having different recording block sizes” as recited in claim 16 of the present invention. By definition, a file system is a “[m]ethod of storing and organizing files on disk. Some of the common file systems are: FAT and NTFS on Windows Systems and UFS and JFS on Unix Systems” (*Oracle Glossary of Terms* <http://www.orafaq.com/glossary/faqglosf.htm>). The Examiner’s Answer on page 7 argues that “none of the claims specifically recites at least one of the file systems is UNIX.” Applicants respectfully submit that the UNIX file system type is merely one example of a file system (as described in the specification on page 15, lines 24-26) and was used in our arguments for ease of explanation. In practice, numerous other types of file systems may be used and claim 16 which recites “two file systems having different recording block sizes” is not limited to any particular file system. Moriyama does not disclose or suggest the two file systems that have different recording block sizes, as in the present claimed invention. Nowhere in Moriyama is there mention or suggestion of the “two file systems having different recording block sizes” as recited in the present claimed invention. Even though Moriyama may have audio and video files that vary in size, these files are not arranged in “two file systems having different recording block sizes” as recited in the present claimed invention. Consequently, in view of these supplemental remarks and the remarks presented in the Appeal Brief, withdrawal of the rejection of claim 16-18 is respectfully requested.

CLAIM 21

Claim 21 is dependent on independent claim 16 and Applicants respectfully submit that it is allowable for the same reasons as claim 16. The Examiner's Answer states that the phrase "file system" (as recited in claim 16) is disclosed by Moriyama and cites Col. 6, lines 61-67 and Fig. 19, DVD 1 of Moriyama as being relevant to the present claimed invention. Applicants respectfully submit that as argued above with respect to claim 16, Moriyama does not disclose or suggest "means of storage comprising two file systems having different recording block sizes" (as recited in claim 16 of the present invention) where "the storage means comprise a recordable disk comprising a single boot block, a first area reserved for the service data of the first file system and for the corresponding data blocks, and a second area reserved for the service data of the second file system and for the corresponding data blocks" as recited in claim 21 of the present invention. Moreover, the cited passage and figure of Moriyama merely describes "a lead in area LI at ... [DVD 1's] most inner circumferential portion and a lead out area LO at ... [DVD 1's] most outer circumferential portion, between which video information and audio information are recorded such that they are divided into a plurality of VTSs 3, each of which has a unique ID (Identification) number" (Col. 6, lines 61-67). Even though the audio and video information which is recorded on a DVD may be recorded using different bit rates (as argued in the Examiner's Answers), Moriyama neither discloses nor suggests that "the storage means comprise a recordable disk comprising a single boot block, a first area reserved for the service data of the first file system and for the corresponding data blocks, and a second area reserved for the service data of the second file system and for the corresponding data blocks" as recited in claim 21 of the present invention. Moriyama merely describes that the DVD physically contains video and audio information. However, Moriyama does not disclose or suggest that "the storage means comprise a recordable disk comprising a single boot block, a first area reserved for the service data of the first file system and for the corresponding data blocks, and a second area reserved for the service data of the second file system and for the corresponding data blocks" as recited in claim 21 of the present invention. Consequently, in view of these supplemental remarks concerning claim 21 and the remarks presented in the Appeal Brief, withdrawal of the rejection of claim 21 is respectfully requested.

CLAIMS 22-27

Claim 22 is dependent on independent claim 16 and Applicants respectfully submit that it is allowable for the same reasons as claim 16. Additionally, although Moriyama describes audio data that may be encoded using different bit rates than video data and decoding of audio and video files using separate decoding systems (as argued in the Examiner's Answer), Moriyama does not disclose or suggest that in "the first file system, each block ... [comprises] a first area for recording the video packets and of fixed size equal to said predetermined quantity, and a second area for recording for audio packets and of fixed size such that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining the predetermined quantity of video data" as recited in claim 22 of the present invention. Moriyama also does not disclose or suggest "a first video writing memory for accumulating a predetermined quantity of demultiplexed video packets" as recited in claim 22 of the present invention. Therefore, despite claim 22 including the "or" language which the USPTO considers to be anticipated by any reference containing one of the subsequent correspond elements, Moriyama does not anticipate the present claimed invention as neither feature is disclosed or suggested by Moriyama. Specifically, Moriyama does not disclose or suggest "a second area for recording for audio packets and of fixed size such that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining the predetermined quantity of video data" as recited in claim 22 of in the present invention. As Moriyama is not concerned with a predetermined quantity of demultiplexed video packets, Moriyama cannot record audio packets in a second area of "fixed size such that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining the predetermined quantity of video data" as recited in the present claimed invention. Claims 23-27 are each directly or indirectly dependent on claim 22 and thus, all arguments herein regarding claim 22 also apply to claims 23-27. Consequently, in view of these supplemental remarks and the remarks presented in the Appeal Brief, withdrawal of the rejection of claims 22-27 is respectfully requested.

CLAIMS 28-31

Independent claim 28 is allowable for the reasons argued in Appeal Brief filed March 12, 2007. As claims 29-31 are dependent on claim 28, they are allowable for the same reasons as claim 28. Additionally, the Examiner's Answer argues that Moriyama describes a DVD "with a lead in area at its most circumferential portion and a lead out area

at its most circumferential portion, between which video information and audio information are recorded” (Examiner’s Answer, page 10). The Examiner’s Answer also argues that Moriyama describes that the capacity of audio information is different than video information and a demultiplexer 86 which “outputs the sub picture, the audio and the video data and outputs them as a sub picture signal, an audio signal, and a video signal, respectively to the buffers ... Moriyama further teaches the VOB ... and in each VOB audio and video information are recorded” (Examiner’s Answer, page 11). However, Moriyama does not disclose or suggest “simultaneous accumulation of the demultiplexed video data in a first memory and of the demultiplexed audio data in a second memory; stopping the accumulation in said memories following the obtaining of a predetermined quantity of video data in said first memory; and recording of the video data accumulated in said first memory and of the audio data accumulated in the second memory respectively in a first area of a block whose fixed size is equal to said predetermined quantity and in a second area of this block, the size of this second area being fixed and chosen in such a way that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining said predetermined quantity of video data” as recited in claim 28 of the present invention. Nowhere in the cited passage or elsewhere in Moriyama is there any mention or suggestion of the “simultaneous accumulation of the demultiplexed video data in a first memory and of the demultiplexed audio data in a second memory” as recited in the present claimed invention. Also, Moriyama does not disclose or suggest “stopping the accumulation in said memories following the obtaining of a predetermined quantity of video data in said first memory” as recited in the present claimed invention. Therefore, Moriyama cannot record the video data and audio data, “respectively in a first area of a block whose fixed size is equal to said predetermined quantity and in a second area of this block, the size of this second area being fixed and chosen in such a way that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining said predetermined quantity of video data” as recited in the present claimed invention. Consequently, in view of these supplemental remarks and the remarks presented in the Appeal Brief, withdrawal of the rejection of claims 28-31 is respectfully requested.

CLAIMS 32-33

Independent claim 32 is allowable for the reasons argued in Appeal Brief filed March 12, 2007. As claim 33 is dependent on claim 32, it is allowable for the same reasons as claim 32. Additionally, as discussed above, as Moriyama does not disclose or

suggest two file systems or “a double file system,” Moriyama cannot disclose or suggest “a double file system wherein a first system is adapted to files of an audio/video stream type and wherein a second file system is adapted to files of smaller size than the audio/video streams” as recited in claim 32 of the present invention. The Examiner’s Answer on page 11 argues that “Moriyama teaches the audio files are smaller in size than the video files, and the video and audio files are encoded and decoded using different encoders and decoders” and therefore, Moriyama is equivalent to claims 32 and 33 of the present invention. Applicants respectfully disagree. Merely showing that audio files are smaller in size than video files and that the decoding/encoding of audio files is different than the encoding/decoding of video files does not disclose or suggest the **double** file system as claimed in claim 32 of the present invention. Therefore, Moriyama neither discloses nor suggests “a double file system wherein a first system is adapted to files of an audio/video stream type and wherein a second file system is adapted to files of smaller size than the audio/video streams” as recited in claim 32 of the present invention. Consequently, in view of these supplemental remarks and the remarks presented in the Appeal Brief, withdrawal of the rejection of claims 32 and 33 is respectfully requested.

Rejection of Claims 19-20 under 35 U.S.C. 103(a) over Moriyama (U.S. Patent 6,067,282) in view of the admitted prior art

CLAIMS 19-20

All arguments presented with respect to claim 19 and 20 in the Appeal Brief filed on March 12, 2007 are applicable. Additionally, in response to the Examiner’s Answer regarding claims 19 and 20, the Appeal Brief filed March 12, 2007 provides that the individual systems, similar to the combined system of Moriyama and Prior Art, do not disclose or suggest the features claimed in claims 19 and 20 of the present invention. However, even if the system of Moriyama was combined with admitted Prior Art to include a file system, such as UNIX (as in admitted Prior Art), as suggested by the Final Office Action and Examiner’s Answer, the combined system would still not make the present claimed invention unpatentable. The combined system would merely be one file system (i.e. UNIX) that could manage recorded audio and video data. The audio files would be smaller in size than the video files. However, even the combined system of Moriyama and admitted Prior Art would not disclose or suggest “two file systems having different recording block sizes” as recited in the present claimed invention. Therefore, the

combined system of Moriyama and admitted Prior Art cannot disclose or suggest that a “first file system is adapted to sequential access of the recorded data, while the second file system is adapted to random access of the data recorded therein” in claim 19 of the present invention. As the combined system does not contain two file systems, the combined system does not describe the features of the present invention as claimed in claim 19.

As can be seen from the present specification, any recording medium may be partitioned in a certain number of blocks of a fixed size in order to enable management by a file system. However, the present specification recognizes that a single file system is not efficient when recording different types of data having big differences in size, especially when one type of data is video data. The two file systems are adapted to two different types of access of the recorded data. Therefore, the present claimed invention proposes a double file system, in order to allow management of two types of data. Moriyama combined with the admitted Prior Art, on the other hand, records data in a hierarchical structure to achieve efficiency when accessing the data. The combined system of Moriyama and admitted Prior Art does not disclose or suggest two different file systems as in the present claimed invention. Therefore, the combined system neither discloses nor suggests a “first file system” and a “second file system” where “the first file system comprises simple indirect addressing, while the second file system comprises multiple indirect addressing” as recited in claim 19 of the present invention. As claim 20 is dependent on claim 19, it is allowable for the same reasons above as claim 19. Consequently, in view of these supplemental remarks and the remarks presented in the Appeal Brief, withdrawal of the rejection of claims 19 and 20 is respectfully requested.

VIII CONCLUSION

Moriyama, when taken alone or in combination with admitted prior art, does not disclose or suggest two file systems that have different recording block sizes as in the present claimed invention. Moriyama also does not disclose or suggest a first area and second area of a block where data is recorded in memory. The present claimed invention performs a multitude of functions, including consecutively reading and writing to a disk. Moriyama is unable to perform such a function, as Moriyama does not contain two file systems as in the present claimed invention. The Prior Art, as admitted in the specification, merely describes an example of a file system, which is the UNIX system. Moriyama does not contain two file systems and UNIX is just an example of one type of file system.

Therefore, Moriyama, when taken alone or in combination with admitted Prior Art, neither discloses nor suggests "two file systems having different recording block sizes" as recited in claim 16 the present invention. Moriyama also neither discloses nor suggests "simultaneous accumulation of the demultiplexed video data in a first memory and of the demultiplexed audio data in a second memory ... recording ... the video data accumulated in said first memory and ... the audio data accumulated in the second memory, respectively in a first area of a block whose fixed size is equal to said predetermined quantity and in a second area of this block" as recited in claim 28 of the present invention. Additionally, Moriyama neither discloses nor suggests "a double file system wherein a first system is adapted to files of an audio/video stream type and wherein a second file system is adapted to files of smaller size than the audio/video streams" as recited in claim 32 of the present invention. As claims 17-27, 29-31 and 33 are dependent on independent claims 16, 28 and 32, respectively, these claims are allowable for the same reasons as the independent claims. Accordingly, it is respectfully submitted that the rejection of Claims 16-33 should be reversed.

Respectfully submitted,
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APPENDIX I - APPEALED CLAIMS

16. (Previously Presented) A digital video reception device, comprising:
means of reception and of demultiplexing of a multiplexed digital stream; and
means of storage comprising two file systems having different recording block
sizes.

17. (Previously Presented) The device as claimed in claim 16, wherein
the blocks of the first file system are of large size and adapted to the recording of
audio/video streams and in that the blocks of the second file system are of smaller size and
adapted to the recording of files of smaller size than the audio/video streams.

18. (Previously Presented) The device as claimed in claim 16 wherein the
block size of the first file system is larger by at least an order of magnitude than the block
size of the second file system.

19. (Previously Presented) The device as claimed in claim 16, wherein
the first file system is adapted to sequential access of the recorded data, while the second
file system is adapted to random access of the data recorded therein.

20. (Previously Presented) The device as claimed in claim 19, wherein
the first file system comprises simple indirect addressing, while the second file system
comprises multiple indirect addressing.

21. (Previously Presented) The device as claimed in claim 16, wherein
the storage means comprise a recordable disk comprising a single boot block, a first area
reserved for the service data of the first file system and for the corresponding data blocks,
and a second area reserved for the service data of the second file system and for the
corresponding data blocks.

22. (Previously Presented) The device as claimed in claim 16,
comprising:

a first video writing memory for accumulating a predetermined quantity of
demultiplexed video packets;

a second audio writing memory for accumulating demultiplexed audio packets; and

means of storage being adapted to store the remultiplexed audio and video packets in the form of blocks of the first file system, each block comprising a first area for recording the video packets and of fixed size equal to said predetermined quantity, and a second area for recording for audio packets and of fixed size such that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining the predetermined quantity of video data.

23. (Previously Presented) The device as claimed in claim 22, comprising:

a third video reading memory for reading video data from the storage means; and

a fourth audio reading memory for the reading of audio data, the respective sizes of the third and fourth memories, video and audio reading respectively, being equal to the sizes of the first and second memories, video and audio writing respectively.

24. (Previously Presented) The device as claimed in claim 22, comprising:

a writing memory for transmitting data to the storage means, which memory is organized as an area comprising N video writing memories of FIFO type and an audio writing area comprising a memory of FIFO type having the size of N audio writing memories;

means for controlling the transfer of video data to a first of the N video writing memories and of audio data to the audio writing area, the transfer of video data being continued to a next video writing memory when said first of the N video writing memories is full; and

means for storing the location, in the area for recording audio data, of the audio data corresponding to each of the N video writing memories.

25. (Previously Presented) The device as claimed in claim 24, further comprising:

means for initiating the transfer of video and audio data stored in said writing memory to the storage means as soon as one of the N video writing memories has been filled.

26. (Previously Presented) The device as claimed in claim 23, further comprising:

a reading memory for receiving data from storage means, which memory is organized as an area comprising N video reading memories of FIFO type and an audio reading area comprising a memory of FIFO type having the size of N audio reading memories;

means for controlling the transfer of video data to a first of the N video reading memories and of audio data to the audio reading area, the transfer of video data being continued to a next video reading memory when said first of the N video reading memories is full; and

means for storing the location, in the area for reading audio data, of the audio data corresponding to each of the N video reading memories.

27. (Previously Presented) The device as claimed in claim 26, further comprising:

means for initiating the transfer of video and audio data stored in said reading memory to a decoder of said data when the set of N video reading memories has been filled.

28. (Previously Presented) A process for recording audio and video data in a digital television receiver, comprising the steps of:

demultiplexing audio and video packets relating to one and the same program;

simultaneous accumulation of the demultiplexed video data in a first memory and of the demultiplexed audio data in a second memory;

stopping the accumulation in said memories following the obtaining of a predetermined quantity of video data in said first memory; and

recording of the video data accumulated in said first memory and of the audio data accumulated in the second memory respectively in a first area of a block whose fixed size is equal to said predetermined quantity and in a second area of this block, the size of this second area being fixed and chosen in such a way that it is greater than or equal to the maximum quantity of audio data which can be accumulated while obtaining said predetermined quantity of video data.

29. (Previously Presented) The process as claimed in claim 28, wherein the ratio of the sizes of the first and second areas is such that it is greater than or equal to the maximum ratio of the bit rate of video data and of the bit rate of audio data in the digital stream.

30. (Previously Presented) The process as claimed in claim 28 further comprising the step of:

recording in each block of a data item indicating the quantity of audio data recorded in this block.

31. (Previously Presented) The process as claimed in claim 28, wherein the recorded audio and video data are elementary stream packets, with the exclusion of information emanating from the transport layer.

32. (Previously Presented) An audio and video data recording device, comprising:

a double file system wherein a first system is adapted to files of an audio/video stream type and wherein a second file system is adapted to files of smaller size than the audio/video streams.

33. (Previously Presented) The device as claimed in claim 32, further comprising a rerecordable disk divided into sectors, data blocks of the first file system having a size of at least 256 sectors, data blocks of the second file system having a size of a few sectors.